REPORT OF . . .

First annual meeting

of the

National Association

of

Nurse Anesthetists

Held at

MILWAUKEE, WISCONSIN

September 13-15, 1933

Greetings

to the

National Association of Nurse Anesthetists

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First annual meeting

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OFFICERS 1933 - 34

AGATHA C. HODGINS

Honorary President
Trustee

GERTRUDE L. FIFE

President

OFFICERS 1933 - 34

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HELEN LAMB
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LIST OF REGISTRANTS

WEDNESDAY, SEPTEMBER 13th, 1933

8:00 A. M.

Kilbourn Hall, Public Auditorium, Milwaukee, Wis.

Albertie, Doris	St. Joseph's Hospital	Milwaukee, Wis.
Alexander, Gertrude	1291 Union	Memphis, Tenn.
Ammentorp, Magna	Deaconess Hospital	Grand Forks, N. D.
Armstrong, Ethel	Cumberland Hospital	Brooklyn, N. Y.
Barbary, Priscilla J.	Mercy Hospital	Benton Harbor, Mich.
Berger, Olive L.	Johns Hopkins Hos.	Baltimore, Md.
Bieber, Clara G.	Woman's Hospital	New York, N. Y.
Blickendorfer, Anna	Grant Hospital	Chicago, Ill.
Boswell, Mrs. Louis K.	1334 Inglewood Dr.	Cleveland Hts., O.
Brandenberg, Beatrice	St. Mary's Hospital	Milwaukee, Wis.
Bridenhagen, Leona	Milwaukee Gen'l Hos.	Milwaukee, Wis.
Bryant, Nettie M.	Exchange Bldg.	Memphis, Tenn.
Burgess, Florence L.	St. Anthony Hospital	Milwaukee, Wis.
Burnett, Anna P.	Victory Mem'l Hos.	Waukegan, Ill.
Cameron, Catherine	St. Joseph's Hospital	Milwaukee, Wis.
Cameron, Mae B.	Ravenswood Hospital	Chicago, Ill.
Campbell, Julia I.	811 Main St.	Oconto, Wis.
Craven, Helen K.	Bellevue Hospital	New York, N. Y.
Donovan, Mary	Milwaukee Co. Gen'l	Milwaukee, Wis.
Duby, Norbeth W.	W. Frankfort Union	West Frankfort, Ill.
Estes, Mary Laird	Children's Hospital	Chattanooga, Tenn.
Fife, Gertrude L.	University Hospitals	Cleveland, O.
Fleming, Maude M.	Norfolk Prot. Hos.	Norfolk, Va.
Flynn, Mary E.	St. Joseph's Mercy	Fort Dodge, Iowa
Forsland, Myrtle	2042 Pratt Ct.	Evanston, Ill.
French, Bessie May	Women's Hospital	Flint, Mich.
Gath, Fanny E.	Harlan Hospital	Harlan, Ky.
Gettinger, Anna L.	St. Louis City Hospital	St. Louis, Mo.
Gettinger, Rose H.	St. Mary's Hospital	St. Louis, Mo.
Gilbertson, Louise T.	1304 Union Ave.	Memphis, Tenn.
Godbey, Virginia	W. I. Cook Memorial	Fort Worth, Tex.
Guibor, Helen	614 Marcy St.	Ottawa, Ill.
Hain, Agnes	Bishop Clarkson Mem.	Omaha, Nebr.
Hall, Annie J.	Thomas Dee Mem.	Ogden, Utah
Hepp, Myrle C.	Milwaukee Gen'l Hos.	Milwaukee, Wis.
Hess, Amanda	Mt. Sinai Hospital	Milwaukee, Wis.
Hill, Nathalie	Middlesex Hospital	New Brunswick, N. J.
Hoadley, Dorothy M.	Methodist Hospital	Fort Worth, Tex.
Houck, Edna I.	Philipsburg State	Philipsburg, Pa.
Houser, Jennie	Memphis Gen'l Hos.	Memphis, Tenn.
Howard Elizabeth W.	Women's Med. Coll.	Philadelphia, Pa.
Jahn, Julia C.	4421 W. Lisbon Ave.	Milwaukee, Wis.
Kippen, Janet	916 E. 15th St.	Minneapolis, Minn.

Lamb, Helen	Barnes Hospital	St. Louis, Mo.
Lambert, Hilda	809 Dodge St.	Beverly, Mass.
Laughlin, Rose	Mt. Sinai Hospital	Milwaukee, Wis.
Lollis, Juanita	Springfield Hospital	Springfield, Ill.
Long, Florence H.	Lutheran Mem. Hos.	Chicago, Ill.
McDonald, Annie Lee	56 N. McLean, Apt. 4	Memphis, Tenn.
McFadden, Irene	City Hospital	Cleveland, O.
McGinley, Edith	Sheboygan Mem. Hos.	Sheboygan, Wis.
McKay, Cora	Albany Hospital	Albany, N. Y.
Malamphy, May	St. Mary's Hospital	San Francisco, Cal.
Maronda, Essie	Spencer Hospital	Idaho Falls, Idaho
MacKichan, Eva	Salem Hospital	Salem, Mass.
MacKinnon, Mary F.	Jamaica Hospital	Richmond Hill, L. I.
Marberry, Eunice	Trinity Hospital	Little Rock, Ark.
Mazza, Mary E.	Dubuque Clinic	Dubuque, Iowa
Meil, Esther J.	Henry Ford Hospital	Detroit, Mich.
Mirick, Grace	St. Luke's Hospital	Duluth, Minn.
Moser Viola M.	Madison Gen'l Hos.	Madison, Wis.
Magnin, Martha	Milwaukee Gen'l Hos.	Milwaukee, Wis.
Malloy, Catherine	Eitel Hospital	Minneapolis, Minn.
Nash, Ruth	Long Island College	Brooklyn, N. Y.
Nichol, Mabel A.	Silver Cross Hospital	Joliet, Ill.
O'Connor, Inez E.	Wesley Mem. Hos.	Chicago, Ill.
Ogle, Cora Lee	Bethesda Hospital	Cincinnati, O.
O'Leary, Glena B.	Roper Hospital	Charleston, S. C.
Olson, Anna M.	Grant Hospital	Chicago, Ill.
O'Malley, Mary	25 E. Washington St.	Chicago, Ill.
Parrish, May E.	Victoria Hospital	Miami, Fla.
Paulson, Elizabeth	1832 E. Windsor St.	Milwaukee, Wis.
Peterson, Hazel	Sioux Valley Hospital	Sioux Falls, S. Dak.
Pettigrew, Sara	Sterling Hospital	Sterling, Ill.
Pfeifer, Christine K.	Children's Hospital	Columbus, O.
Pfisterer, Dorothy	White Cross Hospital	Columbus, O.
Phillips, M. Louise	St. Mary's Hospital	Madison, Wis.
Pippereit, Martha A.	Chicago Memorial	Chicago, Ill.
Powell, W.	Wash. Park Hotel	St. Louis, Mo.
Quarles, Myra B.	Children's Hospital	Oakland, Cal.
Richards, Lucy E.	Elyria Mem. Hos.	Elyria, O.
Riebhoff, Grace H.	Bridgeport Hospital	Bridgeport, Conn.
Ries, Anna J.	St. Mary's Hospital	Rhinelander, Wis.
Risse, Mayme J.		Red Wing, Minn.
Robinson, Helen B.	Kings County Hos.	Brooklyn, N. Y.
Ruse, Lala	1441 Eastmoreland	Memphis, Tenn.
Sauer, Olga	Milwaukee Hospital	Milwaukee, Wis.
Schmid, Carol	236 Oxford Ave.	Buffalo, N. Y.
Schmidt, Dora	Maternity Hospital	Cleveland, O.
Schmidt, Lucy L.	1249 Fifth Ave.	New York, N. Y.
Schramske, Matilda J.	Sacred Heart Hospital	Eau Claire, Wis.

Schultz, Shirley A.	1606 So. 32nd St.	Milwaukee, Wis.
Schwarting, Louise		Reinbeck, Iowa
Skully, Anna	St. Alexis Hospital	Cleveland, O.
Sloat, Mildred R.	Mt. Carmel Hospital	Columbus, O.
Smith, Janet	St. Joseph's Hospital	Ft. Worth, Tex.
Stover, Ethel	Deaconess Hospital	Milwaukee, Wis.
Sister M. Alexandrine	St. John's Hospital	Cleveland, O.
Sister Benedita	St. John's Hospital	Cleveland, O.
Sister St. Henry	Misericordia Hospital	Milwaukee, Wis.
Talcott, Marie	Lincoln Hospital	Rochelle, Ill.
Thielen, Leone A.	St. Joseph's Hospital	Milwaukee, Wis.
Thompson, Anne	Huron Road Hospital	Cleveland, O.
Toalson, Katherine	Methodist Hospital	Memphis, Tenn.
Toomey, Martha	St. Mary's Hospital	Duluth, Minn.
Ullricht, Edna L.	St. Mary's Hospital	Madison, Wis.
Vickers, Hattie	Vanderbilt Uni. Hos.	Nashville, Tenn.
Walton, Mary E.	Mercy Hospital	Pittsburgh, Pa.
Ware, Mary A.	Children's Hospital	Cincinnati, O.
Willenborg, Anna	St. Joseph's Hospital	Chicago, Ill.
Williams, Grace	Allegheny Gen'l Hos.	Pittsburgh, Pa.
Winter, Ruth	Mt. Sinai Hospital	Milwaukee, Wis.
Zilisch, Serina	Miller Hospital	St. Paul, Minn.

CLINIC - St. Joseph's Hospital 9:00 A. M.

Miss Catherine Cameron, Chairman of the Local Committee, had arranged for two busses to take the group out to a clinic at St. Joseph's Hospital. At 9:00 o'clock we arrived at St. Joseph's Hospital, registered and were taken to the operating rooms. The hospital is a most beautiful building, and the Sisters, doctors and staff had put forth every effort to make our morning session interesting and helpful.

The anesthetic most generally used at St. Joseph's is ethylene. We were very much impressed with the technique of administration, and it was a privilege to have been allowed to see the beautiful results that are obtained at this clinic. The anesthetics were given by nurse anesthetists, and incidentally, St. Joseph's Hospital maintains a well organized School of Anesthesia.

At 11:00 o'clock Dr. Chester Echols addressed our group and gave a most interesting and instructive talk.

During this session Dr. F. A. Stratton, also of St. Joseph's Hospital, Milwaukee, Wis., gave the following paper:

It is indeed a pleasure for me to meet this group of anesthetists assembled from all over the country. I have a very friendly feeling toward the present day anesthetist, because I have been practicing surgery for upwards of twenty years and have gone through the period when we had to rely upon interns and graduate physicians, with little or no training, to do this kind of work. It was necessary then for the surgeon to devote considerable time to the anesthetic which should have been devoted to the operation, and there was a great deal of anxiety in his mind connected with its administration.

In those days chloroform was used quite commonly and although I believe chloroform is fairly safe in the hands of an expert, it is a very dangerous drug in the hands of one not properly trained. Ether at that time with the method of administration then in vogue was not devoid of danger and though direct deaths from anesthesia were infrequent there were undoubtedly many disastrous remote effects.

I for one welcome the advent of the woman anesthetist. The average intern or practicing physician who did not intend to devote all of his time to this work, and whose mind was distracted by attempting to observe the operation, could not possibly give his job the attention which it deserved, and naturally one who devotes only part of his time to any work cannot possibly have the enthusiasm which is necessary to make him a success.

On the other hand, the nurse who adopts anesthesia as a profession, thinks only of perfecting herself in her chosen field and is therefore able to acquire that admirable efficiency which relieves the physician of the responsibilities of the anesthetic and therefore of a great deal of anxiety. I might say that this applies to many other fields of hospital endeavor that women have taken up, such as the profession of laboratory technician and the like.

There have grown up in the last few years a great many fads in anesthesia, such as the administration of certain drugs per rectum. I refer particularly to avertin. The use of spinal anesthesia as a routine in my opinion is also entirely unjustifiable. Rectal anesthesia of any kind offers the objection that once the drug has been administered, whether the dose is too large or not, control of the anesthetic is lost. This objection also applies to spinal anesthesia or to the intravenous administration of sodium amytal.

Therefore, I disapprove of intravenous or rectal anesthesia, and only make use of these drugs, in certain cases, in small doses as a base for some form of inhalation anesthesia. After several years of experience, some of it very unhappy, with spinal anesthesia, I have formed some very definite opinions as to the indications for its use. It is a very comfortable anesthetic from the standpoint of the surgeon in abdominal cases, as it produces a complete relaxation, and collapse of the intestines. It has, however, a very definite mortality as any one knows who has made use of it in a large series of cases. It is almost impossible to obtain data as to the mortality rate but I am of the impression that if one used it as a routine in one thousand cases, at least one accident would occur resulting in the death of the patient or a permanent partial paralysis.

In view of the fact that ethylene and ether have been given in thousands of cases with no apparent bad effects, the use of spinal anesthesia as a routine is entirely unjustifiable. Therefore, I confine its use to those cases where the advantage of a good exposure is so important, that it outweighs every other consideration, and to certain operations upon the extremities where a small dose, not exceeding one hundred milligrams, will produce the desired anesthetic effect. In the former category, I refer to operations such as difficult hysterectomies in stout women, op-

eration for cancer of the large bowel, abdominal sympathectomies, and in the latter category, amputations of legs, hemorrhoidectomies or herniorrhaphies where for some reason inhalation anesthesia is contraindicated.

In all other operations I am content to employ ethylene or ether or a combination of both, or when ethylene is not available nitrous oxide and oxygen with or without ether, when administrated by such experts as I am at present addressing. I have been using ethylene for a number of years and have never seen an anesthetic death or any bad after effects which could be attributed to its use.

In closing I wish to extend my congratulations to the members of your organization on having attained such high degree of proficiency in your work which has resulted in such a benefit to us as surgeons and to our patients.

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12:30, Luncheon at Hotel Astor. Attendance - 85.

At this luncheon a letter of greeting from Dr. Evarts Graham, Professor of Surgery, Washington University, St. Louis, Mo., was read, as follows:

September 11, 1933

Department of Surgery
Barnes Hospital
600 South Kingshighway
Greetings

To the National Association of Nurse Anesthetists:

Miss Helen Lamb has told me of this first meeting of your Association and has asked me to write a letter of greeting. I feel that I am highly honored in being asked to do so. One of the most important contributions towards the perfection of surgery has been the improvement in the conduction of anesthesia. To a large extent I feel that the skillful, well-trained nurse anesthetist has been responsible for the great improvement in the practice of anesthesia which one sees throughout this country now as compared with twenty years ago. In order to continue the excellent work which has already been started, it is wise to have an organization such as has been created in order to establish certain minimum standards of training and efficiency. No stigma can be attached to the nurse anesthetist if she proves worthy of her position. It will be necessary for you leaders to safeguard your profession by recognizing the able and not recognizing the improperly trained anesthetist.

There is need for an organization such as you have founded. I hope that it will have a long life and a prosperous one.

With best wishes,

Cordially yours,
(Signed) Evarts A. Graham

GENERAL SESSION

2:00 P. M., Kilbourn Hall, Auditorium

CHAIRMAN FIFE: Members of the National Association of Nurse Anesthetists, and guests:

It is with regret that I have to announce that our President, Miss Agatha C. Hodgins, is unable, due to a very severe illness, to be with us today. She has sent a message to us, which will be read by Mrs. Louis Keith Boswell.

AGATHA C. HODGINS

Director, Post-Graduate School of Anesthesia, University Hospitals, Cleveland, O.

Madam Chairman, Members of the National Association of Nurse Anesthetists and Guests:—

It is a matter for felicitation that the American Hospital Association courteously extended to our new Association an invitation to meet with them — a privilege happily accepted and much appreciated. Your president greatly regrets that at this significant gathering, her greetings and good wishes for a successful and profitable meeting must, perforce, be delegated to another. This present meeting is the first-fruit of what might be called an adventure. That adventuring is a necessary and vital thing to life and growth is a sound principle, emphasized by our wisest philosophers. "There never can be any static maintenance of perfection —advance or decadence are the only choices offered to mankind." (1) This spirit of adventure is then the dynamic force that keeps us constantly contrasting what we are and what we may be and supplies the necessary courage to change from static to growing conditions.

An adventure may become a satisfactory achievement, a disastrous occurrence or perchance dwindle to a mere excursion. To make achievement sure there must be a clear understanding of what it is all about and this dynamic force intelligently directed and guided. We must, while soberly considering the necessary stress and strain of organization, with its attendant discouragements and disappointments, regard all such, only as obstacles to be courageously overcome on our way to turning this adventure into a happy successful achievement. To do this we have need of both young and older minds. Youth contributing not only the fresh enthusiasm and optimism but also "the sense of uneasiness, of discomfort, of bondage, of slowness which things as they are produce in its more sensitive members." (2) These are valuable contributions to any undertaking, but without the balanced judgment and deeper, larger hope of mature minds they are apt to result in transient success and later failure. Life brings experience and "Experience," said the apostle, "worketh hope." Adventuring then in a fine cause is a thing of the spirit and on final analysis the life and growing of an organization will depend on keeping alive this questing spirit.

Conceded that an adventure should be entered upon for a reason and have an aim, which involves the attainment of certain objectives—

what then was our reason and what did we hope to accomplish when on June 17th, 1931, a group of forty-nine nurse anesthetists, representing twelve states, met at Lakeside Hospital, Cleveland, and formed "The National Association of Nurse Anesthetists"?

Basically, the reason for organization was a deepening consciousness, in the minds of those most concerned, of the accepted truth; that the development of any field of work is best obtained by organizing into a coherent group those most concerned in its continuance and progress. Also recognition of the fact that forming such an organization implies not only commitment to certain ideals, but involves the responsibility of working in a definite practical way for the attainment of desired objectives.

Particularly, organization of the group seemed necessary, because of the situation in regard to the present status of the nurse anesthetist — a confused and perplexing one, as no intelligent person can deny. Increasingly aware of the fact that while with practically every other medical group, organization had been accomplished — our group was in a sort of between position, having no distinctive place of its own. "There is a society of medical anesthetists, but nurse anesthetists are not eligible for membership; the work does not properly fall under the jurisdiction of nursing and for lack of a medical degree nurse anesthetists cannot be included as members of medical association."(3) Keen realization of the fact that, while doing a work of immense and real importance, we lacked the means to advance our cause as a whole, or to obtain for those making it their life work the status and security they so well deserve, made it obligatory that we create an organization primarily concerned with progress of the work and serving the interests of our own group. Acknowledgely the place taken and the recognition given will depend on how fine an organization we can build up. A colorful continuing adventure this building up of an organization; an assured successful achievement, if each and every member will do her part.

An organization, such as ours, to be truly successful should not only be idealistic and practical; but must exercise between these two aims the saving sense of balance. Judicious weighing of values calls for fine exercise of the critical faculty, since criticism depending on whether it is constructive or destructive may be the means of nourishing or killing a project.

It has been wisely said, ". . . the object of the critical faculty is not to censure faults but to disengage excellencies . . . The basis of criticism is imagination, its spiritual quality is simplicity, its intellectual distinction is balance."(4) Here then is a measuring stick of values, a guide to "true up" the formulations of future plans, and help towards the rightful fulfillment of sought for results.

The faculty of disengaging excellencies will set free for our consideration the best qualities and talents of those working with us, thus establishing an "esprit de corps" which cannot fail to bring about a constructive executive and educational program. There is an old Chinese maxim that "He who wishes to know the road through the mountain must ask

those who have already trodden it." One of the beneficial results of belated organization is that by seeking the counsel and help of interrelated groups, who have already "trodden the mountain" we will not only disengage the excellencies which they have discovered but will also establish between our group and theirs a feeling of friendly interest and cooperation invaluable to our future development.

The basis of criticism is imagination, because the fine exercise of the critical faculty implies ability to see the picture whole, not as a part. Remembering that mental vision must precede practical expression, we should all create a vision not only of the organization as a whole, but also of the part we as individual members hope to play. The more clear cut and aspirational this vision is, the greater probability of its fulfillment.

We are today everywhere confronted with the results of too extravagant thinking, which has ended in such elaborate plans of organization and multiplicity of projects as to render impossible, in many cases, the task of keeping them in efficient running order. Let us then start by exercising that spiritual quality, simplicity, not only in weighing and determining future policies, but in establishing working relationships with one another. Be simple, direct and sincere. Thus practicing simplicity we shall as individuals and a group reap its spiritual fruits — clearness of vision, singleness of purpose, strength and endurance.

In a recent fascinating autobiography this (to me) arresting paragraph occurs: "Now for herself (Gertrude Stein) she was not efficient; she was good humored, she was democratic, one person was as good as another, and she knew what she wanted done. 'If you are like that,' she says, 'anybody will do anything for you. The important thing,' she insists, 'is that you must have deep down as the deepest thing in you a sense of equality. Then anybody will do anything for you.' " (5)

Equality, which like simplicity is fundamentally a thing of the spirit, is a formative, potent influence in establishing the spirit of good will and friendly tolerance between members of a group. While recognizing the fact that diversification of gifts exists, we affirm equality of spirit among those concerned in a common cause. This deep down feeling of equality will keep us from being hesitant of asking assistance from others; thus, asking and giving, such talents as we may each possess will be brought together and used for the building of the whole.

"He is poor indeed who hath not patience." (6) We might well, by adding courage, take this as a motto. We shall be poor, indeed, if we do not add to our armamentarium cheerful, optimistic courage, endurance and patience. Remembering that while "Any man may make a mistake, none but a fool will stick to it," (7) we will courageously acknowledge faults and be cheerfully optimistic in starting — if need be — afresh. The exercise of courage will help us to take necessary criticism without resentment and give credit when due, ungrudgingly and generously. Realizing the existence in human affairs of the "up and down curve" we will take the down curve not as discouragement, but rather as time given for resting and contemplation — for gathering fresh courage to go buoyant-

ly forward on the upcurve, towards what we hope will prove a still more profitable phase of our adventure.

An effective, harmonious program will depend on how efficiently future plans are evaluated, coordinated and balanced on the basis of their usefulness to the organization as a whole. To do this successfully is an intellectual task of no mean order. Balance connotes wise judgment; placing emphasis on essentials rather than non-essentials, on the permanent rather than the transient, on a sound rather than expedient course. Recognizing the "time element" we will judge not on how long it takes but how well a task is done, and on the other hand avoid a senseless waste of time over unimportant things. Our sense of proportion will keep us from allowing a preponderance of any one sort of influence — thus leading to the formation of cliques. We will recognize that influence in an organization is like ballast in a ship — it must be the right weight and in the right place to insure safe sailing. The exercise of common sense and balance will give us a sane idea of the relative importance of events; in time we hope it will teach us to treat "all disasters as incidents and none of the incidents as disasters". (8) Thus by good sense in treating incidents, we will avoid many disasters. Balance seasoned with a sense of humor and good nature will not only save us from taking ourselves too seriously but enable us to be generous in seeing the viewpoint of others. By mutual concessions we will solve our differences and so preserve harmony throughout the organization.

The house I now live in is well over the century mark. Built in far-off Colonial days, it has, while lending itself to changes necessary for our more modern ideas of comfort, retained the original characteristics of beauty, simplicity and usefulness, first given tangible form, in it, by conscientious fine workmen. Let us keep our abiding faith, that each component group, now building their part of our organization, may so embody in their work the spiritual qualities of courage, simplicity, endurance and good judgment, that the integral whole may, like this little house, give warmth, light and security to the present generation and be of continuing beauty and usefulness to generations coming after us.

(1) Professor Whitehead, "Adventure of Ideas".
(2) Author unknown.
(3) Paper by writer, read in Pittsburgh.
(4) William Sharpe
(5) Autobiography of Alice B. Toklas, by Gertrude Stein; Atlantic Monthly, July, 1933.
(6) Shakespeare
(7) Cicero
(8) Harold Nicolson

Dr. Malcolm MacEachern, director of Hospital Activities, American College of Surgeons, talked to us on "The Importance of a Well Organized Anesthesia Department." We were unable to obtain Dr. MacEachern's paper in time to publish it in this report. It will be sent to you under separate cover as soon as we receive it.

CHAIRMAN FIFE: Dr. Bert W. Caldwell, Executive Secretary of the American Hospital Association, will talk to us on "The Value of the Nurse Anesthetist to Present-day Hospitalization."

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THE VALUE OF THE NURSE ANESTHETIST TO PRESENT-DAY HOSPITALIZATION

By

Dr. Bert W. Caldwell,

Executive Secretary

American Hospital Association

Madam Chairman, Members of the National Association of Nurse Anesthetists, Ladies and Gentlemen:

It gives me a great deal of pleasure to extend to you the cordial greetings of the American Hospital Association and to wish for you a very pleasant and profitable convention week. Your association has great potentialities of numerical growth and increasing influence in the field of anesthesia. More than 2,000 institutions in the United States are employing the services of nurse anesthetists.

The department of anesthesia in every hospital should be under the direction of a skilled and experienced anesthetist, directly responsible to the surgical division. The anesthetist is the assistant and the cooperator with the surgeon in all of his work necessitating the administration of an anesthetic. Upon the anesthetist the surgeon depends for the safety of his patients so far as the administration of the anesthetic is concerned, during the period of the operation from the induction of the anesthetic until the patient is safely out from under its influence.

The anesthetist must depend upon the surgeon and the department of internal medicine to determine the condition of the patient so far as the use of any particular anesthetic is concerned. The anesthetist must be skilled not only in the mechanics of the administration of the anesthetic but in the determination of the importance of the various signs and symptoms that the patient exhibits while in a state of anesthesia.

The surgeon feels a sense of relief when he knows that his patient is in the hands of a skillful and careful anesthetist who is constantly watching the condition of the patient and is able to eliminate many of the anesthetic hazards before they become dangerous to the safety of the patient.

There will always be a wide field of endeavor, and at fair remuneration, for the nurse anesthetist. Many of our best surgeons are employing their services in our best hospitals. It is unlikely that there will ever be a sufficiently large number of medical anesthetists to fill the requirements of the hospitals which are now employing nurse anesthetists, or meet the wishes of the surgeons who prefer the services of the nurse anesthetist.

Your responsibility to your chosen work and to other nurse anesthetists does not end with the completion of a course of training in anesthesia. As you become experienced in your work you will be greatly im-

pressed with the possibility of scientific study and research afforded by your several departments. The administration of anesthesia is not a mere mechanical thing. It means the application of a vast amount of experience and a scientific knowledge of the drug which you are using, as well as an intimate knowledge of the symptoms which the patient exhibits during the process of anesthesia. A careful application of all the lessons learned through experience and through intensive scientific study makes for the safety of the patient under your care and adds to the value of the nurse anesthetist in whatever institution she may be employed.

Through your association you will be able to establish courses of study that will be increasingly valuable to the person engaged in your particular vocation, and one of the finest services your association will perform in the future will be the encouragement of research and study on the part of your members which will make for the common good of all.

It is particularly appropriate in greeting you at the first annual convention of your association to assure you of a bright future for your profession and for the members of your profession who are joined together in your association. Every nurse anesthetist should become an active member and contribute her part to the growth and success of your organization.

The American Hospital Association is mighty glad to have you hold your first annual convention with us and hopes that in future years we will always have you with us.

CHAIRMAN FIFE: May I take this opportunity to thank Dr. Caldwell for his splendid talk, and also for the assistance he has given us in making it possible for our organization to meet with the American Hospital Association. We appreciate his helpfulness.

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THE FUTURE OF THE NURSE ANESTHETIST

By GERTRUDE L. FIFE

Assistant Director, Post-Graduate School of Anesthesia, University Hospitals, Cleveland, O.

Before launching deeply into the future of the nurse anesthetist, let us get a glimpse of the illustrious past supporting the spirit, the enthusiasm and ambitions responsible for our meeting here today and our organization meeting in June of 1931. Visualize the first nurse in the field of anesthesia — courageous and with complete devotion — striving to carry on a work that had been thrust upon her by virtue of her nature and adaptibility to this branch of hospital service.

We must bear in mind that the surgeons and the hospital administrators are responsible for her advent into the field. The foundation was laid because they recognized the intrinsic worth to future hospital development of direct training and distinct organization of an anesthesia service. Their desire to foster this branch, and the encouragement given by them stimulated the nurse to perfect herself in the work for which she had been chosen. Her aptitude for the work gained increased favor, and within a few years the nurse anesthetist rose from the experimental stage to a point of unquestionable advantage and necessity.

The result of the experiment and the success of the pioneer nurses in this field can be better illustrated by linking the past with the present over a given period of years. Twenty years ago the nurse anesthetist was practically unheard of — today 96 per cent of the leading institutions in the United States employ nurse anesthetists, and many of these institutions have established schools of anesthesia.

We are proud of the number of excellent schools that have been developed — and may I add that they are in the great majority. The springing up of poor schools is the result of many years of indifference to the significance of the work — and to the lack of organization. If the schools at this time are brought into systematic relation as part of a whole, it will encourage the good ones and discourage the poor ones. A group of people so united to carry out a program that is essential, in that it adds to the protection, the safety, and the happiness of many people, is bound to develop, and achieve results far-reaching in advantages to all concerned.

Our newly organized group of nurse anesthetists must assist the nurse to fill the place in hospital service that was intended when the surgeon chose the nurse in pioneer days and entrusted to her the administration of an anesthetic to his patient. We must study the problems from every angle, and in conference with the best minds interested and responsible for this division of hospital service, make an earnest effort to standardize the education of the nurse anesthetist. To do this, we must have a clear vision of what we hope to accomplish, the methods by which we can accomplish this end, and the results once we have accomplished what we have set forth to do.

Let us consider — in regard to the standardization of education— the things we hope to accomplish. The schools now in existence can be classified under three headings — excellent, fair and poor. The subject at this point demands a fair explanation of what can be considered an excellent school. It is one which has been organized along definite lines, with careful thought given to the development of executives and teachers, and much concern exercised in the qualifications of students. The duration of the course of instruction has been influenced by the activity of the surgical service, in regard to the number of cases available to the students for practical instruction, and also by the time available to the students, when not actively engaged in administering anesthetics, for the didactic teaching. In this way the excellent schools have allowed time for both practical and theoretical instruction, and have awarded a diploma at the successful termination of the course. The value to the student of the systematic development of planned education has taken precedence over the needs of the institution in respect to the advantages of students to the institution. It has been possible, however, to mold the two together, so that each has shared the benefits of well planned, well organized schools of anesthesia.

In regard to the qualifications of students, the excellent schools have recognized the fact that if they are to carry on the fine work of a few women especially chosen because of their qualities and adaptability

to this vital work, they must exercise unremitting vigilance in choosing their candidates. These schools have admitted only well trained nurses, who have been graduated from accredited schools of nursing, who have passed the required state board examinations, and who are mentally and physically fit to take up post-graduate work of a serious nature. They have demanded as essential a thorough knowledge of hospital work, operating room technique, and the administration of drugs, before they have allowed one to be admitted to the advanced study of the effect and administration of specific drugs separately considered. Those who have had the benefit of several years of teaching in anesthesia realize more acutely perhaps than many others the stern necessity of a solid background of educational tr[illegible]ning and experience.

In this connection we also recognize the importance and the benefits of the proper arrangement of time in which to teach the subject of anesthesia. The increase in the amount of subject matter that must be presented to the student, the research and use of new drugs, and the degree of skill attained in the administration technique, forces us to emphasize the longer course of study. It is preposterous to imagine that a subject that has brought forth such wealth of research and study can be so condensed as to be treated in a satisfactory manner in a short time. It is not flattering to one who has devoted many years of preparation, probably to the extent of having received a medical degree, to be able to teach his subject in two weeks, or two months. I do not wish to imply, however, that efforts in general are being made to shorten the courses of instruction. We are not unduly disturbed over any efforts in this direction. The result of adequate training will act as a barrier to those who attempt to under-estimate the importance of efficient and well trained people in this as in any other branch of service. Mediocrity in this case is the result of misunderstanding, and misunderstanding is unpardonable when dealing with human lives.

In discussing the education of the nurse anesthetist, this paper would not be complete unless we treat the subject from the standpoint of future changes which to my mind are inevitable. These changes will take many years of concentrated effort on the part of those interested in teaching, and will affect other branches of nursing education before they can affect the education of the nurse anesthetist. The problem of education as I see it resolves itself into university centers, organized as complete teaching units for all branches of medical education. The responsibility of teaching under this arrangement would be assumed by the university working in cooperation with the hospital in regard to the practical instruction to be given to students. Thus the hospital will be released from a great burden, and the students will have the benefit of concerted educational facilities. It seems to me that it is no more the obligation of the hospital to train nurses or anesthetists than it is to train medical students. In the present arrangement of schools of anesthesia, the department functions as a single teaching unit, without definite connection with the other teaching units that have much to offer. This should not be so, inasmuch as it

seems logical that the ones doing the actual research in anesthesia — the physiologists and the pharmacologists — should contribute materially to the teaching of the subject. However, these advantages cannot come unless the anesthetists make an effort to move forward in direct line with other divisions of hospital training.

In the last few years many changes have been made in medical education and hospital management, owing to greater understanding of the needs, increased interest, and economic conditions. The nurse anesthetist has met these changes successfully, and is now faced with a duty to prepare a broad program to direct and influence the future of the work. The course to pursue is clear cut and has accomplished results in other branches of education. The first step in the program was made when we organized in June of 1931. Our second step is to give assurance that our members are and will be only those who by reason of their training, experience, knowledge and character are qualified to undertake the work before us.

The National Association of Nurse Anesthetists, through a committee composed of members holding executive and teaching positions in anesthesia, and who by reason of their knowledge and judgment, and interest in the safeguarding of the work are fitted to be entrusted with such an important task, should carry on an investigation of schools giving instruction to nurse anesthetists. After such investigation, the committee should make recommendations to the National Association that such schools be placed on an accredited list, or on an unrecognized list, as determined by their investigation. The schools appearing on the unrecognized list should be notified, the reasons for the decisions being given. The hospitals conducting post-graduate schools should welcome such a movement and for the benefit of their graduates make every effort to bring their schools up to the required standard. The National Association should at all times be able to furnish information to hospitals or surgeons desirous of employing anesthetists regarding the standing of schools and the qualifications of members of the National Association desirous of obtaining positions.

The National Association should also encourage the establishment of national board examinations for nurse anesthetists. The hospital, the surgeon and the public have a right to require the greatest protection that can be afforded them in this branch as well as in any other branch of hospital service. The fact that a patient chooses a surgeon, placing extreme confidence in his ability and judgment, and holds the surgeon responsible for his safety, makes it as necessary for the surgeon to demand the same vigilance in the choice and protection of the person who, under his direction, is going to carry his patient from the conscious state into the unconscious state, as in choosing a nurse to care for the patient after the operation has been successfully performed. National board examinations for nurse anesthetists would place in the surgeon's hands an official record showing that her knowledge of the subject has met with the approval of an examining board — a board chosen and functioning to safe-

guard the surgeon's interest, the interest of the hospitals, and the interest of the public.

Once we have accomplished these things — what will be the results? The results are apparent — we shall have reached a time when the surgeon, the hospital and the public will have the benefit of highly trained, competent and experienced people in this field. The individual specializing in this particular branch will enter the field well equipped for the work. The training will be clear cut and established, and in addition the work will have the backing of an organization standing for the highest ideals.

In conclusion, let us as members of the National Association of Nurse Anesthetists work with this purpose in view. We shall continue to have the cooperation, support and help of the surgeons and the hospital administrators if we strive for a standard of excellence to accomplish results for the benefit and welfare of the public, in whose interest our organization justifies its existence.

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Adjourned at 4:15 P. M.

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The American Hospital Association had invited our group to attend the Banquet and Ball at the Wisconsin Club Gardens, which took place at 7:30 P. M.

The program was as follows:

Presiding: George F. Stephens, M. D., President

Invocation

Lt. Col. Gustav Stearns, D. D.

Chaplain, 36th Division United States Army

Entertainment during dinner by Milwaukee Chanters and Xylophone

Introduction of Distinguished Guests

Selection

Milwaukee Chanters

Address

Glenn Frank, Ph. D., Litt. D.

President, The University of Wisconsin, Madison, Wis.

Selection

Milwaukee Chanters

Orchestra

Dancing and Entertainment

The National Association of Nurse Anesthetists was honored by the invitation of the American Hospital Association to Mrs. Gertrude L. Fife to sit at the speaker's table.

THURSDAY, SEPTEMBER 14 th

At 9:00 A. M. Tour of the city arranged by the Local Committee.

At 12:30 a luncheon was given at the Hotel Wisconsin.

GENERAL SESSION

2:00 P. M.

CHAIRMAN FIFE: Members of the National Association of Nurse Anesthetists and Guests: Miss Helen Lamb has a message for you.

MISS LAMB: The yearly meeting of the American College of Surgeons brought to St. Louis last October a host of brilliant speakers and thinkers. One of the most inspiring was a gentleman whom it is our great good fortune to have with us today. It gives me great pleasure to introduce Mr. Robert Jolly, Superintendent Memorial Hospital, Houston, Texas.

"N I R A"

By

Robert Jolly, Superintendent, Memorial Hospital, Houston, Texas.

Madam President, Miss Lamb, Ladies and a few Gentlemen:

Miss Lamb wrote me that she did not want me to speak from a technical or scientific standpoint, but rather from an inspirational standpoint. I was glad to comply with her request.

Then she wrote asking, "What subject will you choose?"

I replied, "NIRA."

Immediately I received a telegram saying, "There must be some mistake. What does that mean?"

Of course, you women have curiosity. Men have inquiring minds. I thought if I called the subject "NIRA" it would arouse your curiosity and you would be more interested than if you saw several words spelled out. For your information, the "NIRA" means "Nurses Intently Regard Anesthesia."

I appreciate the invitation to speak to this fine group of women who are an honor to their profession and who are progressing so well with their organization. I have enjoyed this moving picture which we have just witnessed, but I have one criticism to make and that is in the history of anesthesia nothing is said about Dr. Long, of Georgia, who really was the first to use ether as an anesthestic but neglected to report it to his Journal, and who certainly ought to be recognized in the history of anesthesia. Since your grandfathers came down South and licked our grandfathers we Southern folks have to watch out for our credits, and so I am mentioning Dr. Long so that the South will get proper credit.

Eighty-seven years ago the greatest boon that has come to the physical man was announced to the world when those two great doctors demonstrated that a patient could be anesthetized before an operation. Before that time the scenes in operating rooms were so gruesome that we dislike to mention them. We folks who live today can not realize what a change has been made in the handling of surgical cases.

The only surprise to me is that a woman did not give the first anesthetic. I voted for the 19th Amendment because I believed women have just as much sense and just as many brains as men. I still believe that way about it. I think the women just let the men put something past them in the anesheic problem. I have here a clipping from a St. Louis paper which states that Dr. Margaret Smith has just found the virus of the sleeping sickness of St. Louis. That is just one example of what women can do and have done. You can do anything you will to do.

In 1912 the American Society of Anesthesia was organized. The doctors and dentists had waited a long time to form this organization and during the twenty-one years it has been in existence they have done a great work and have made their influence felt all over the world. That same year Miss Hodgins invited some nurses to come to her hospital to take some training in anesthesia. From that time on the field of anesthesia had a new element added to it. Anyone who knows Miss Hodgins knows that she makes herself felt whenever she exercises her talents. In 1914 the war came and she went to France, taking a small group of her students with her. The great work she did over there is history. When our country entered the war she came back to the United States to train women here and sent them over to France where they revolutionized anesthesia in Europe. Emerson said, "Every successful institution is the lengthening shadow of some man or woman." Your organization is the lengthening shadow of Miss Hodgins, who we regret is not present today on account of illness. Her will and determination could not be discouraged by any criticisms or untoward circumstances. She had the feeling deep in her heart that this thing ought to be done and that nurse anesthetists had a place in the scheme of surgery. She took the leadership and each of you can testify today to the wisdom of such leadership. Someone has said, "One example is worth a thousand arguments." I refer you to Miss Hodgins as one example which is worth all the arguments you could mention. She believed that the mental attitude of the patient had much to do with the success of the operation and she believed that this was a large element in the success of anesthesia and this belief has kept her in action throughout the years.

Some people are more afraid of the anesthetic than they are of the operation. This is not at all strange. I have often stood in the operating room and tried to put myself in the place of the paient going under a general anesthetic. Perhaps this is the first time the patient ever saw an operating room. Everything is startling, if not frightening. Try to imagine the feeling of helplessness as one goes under an anesthetic. There are certain things that women are better adapted to do than are men. I think this is one of them. It takes a woman's heart and a woman's mind to sense the mental attitude and to sympathize with it.

We must realize that you women are not trying to do some of the things that you are accused of doing. Everyone ought to understand that you are not desirous of doing regional anesthesia, but that you concede to the doctors that they are the proper ones to administer regional anesthesia. I suppose you have heard in your part of the country that the

doctors are divided in their opinion as to whether nurses ought or ought not to give anesthetics. They certainly are divided on this in my country. There is one group of surgeons, and they are perfectly sincere, who say that when they are performing an operation they can not concentrate their attention on the operation because they are wondering how the nurse anesthetist is progressing with the anesthetic, hence they think it is better for a physician to give the anesthetic. They do not say a word about the fact that when a physician is giving the anesthetic he many times is prone to forget the anesthetic in his eagerness to watch the operation.

One group states that they are interested in the economics and are greatly distressed because $25,000,000 a year is being diverted from the medical professional to go into the pockets of nurse anesthetists. A little investigation would disclose that anesthetists are not making $25,000,000 a year. They do not say anything about the times the medical anesthetist is unable to get to the operation in time and the nurse almost, or entirely, completes the anesthetic before he arrives, and when he does arrive the medical anesthetist rushes in, takes credit for the success of the anesthetic and collects the money without even a box of candy for the nurse. Neither do they say anything about the obstetrical cases at three o'clock in the morning when the nurse not only gives the anesthetic but many times delivers the patient before the obstetrician or the medical anesthetist arrives.

There is still another group who say the nurses are trying to "chisel" in. They seem to think that you have a desire and ambition and intention to supplant them and to dominate the field. Some of them actually believe that, in spite of all you say and write to the contrary.

I am frank to say that I do not believe every graduate nurse is capable of being an anesthetist. I think you will agree with me. I think many graduate nurses who start in the field of anesthesia very soon find out they are not fitted and give it up. There are certain characteristics a nurse must have before she can become an anesthetist. I mention some:

First, she should have courage. It is generally conceded that under ordinary circumstances a woman is more courageous than a man. Of all places a woman should have courage it is in giving anesthetics. She must never waver, but must have her own conviction and the will to do what she thinks is best without any fright or fear. Any woman who gets flustered over emergencies should never try to give an anesthetic.

She should also be a quick thinker. The giving of an anesthetic is no place to bluff. An anesthetist cannot bluff. The doctors sometimes can bluff and look wise and let nature take its course. An anesthetist must know what she must do and do it. She has no time to run to a book and look up references.

She must also coordinate her mind and hands. If she can not think and act at the same time she had better give up her career as a nurse anesthetist. The practice of anesthesia is more than technique. It is not only a science; it is an art. That's why I think women are so well adapted to it. A woman's hands are made for such things. That's why we speak of our mother's hands.

Another thing a nurse anesthetist must have is an interest in surgery. She must be interested in the welfare of the patient and in the welfare of the surgeon else she will become a mere machine.

The characteristics I have just discussed are those of the young women who compose this organization which you formed on June 17th, 1931 at the Lakeside Hospital. That was just a little over two years ago. I think it is perfectly remarkable the way you women got started and the way you have progressed since then. At that meeting there were 40 women from 12 states in attendance, but there were 125 women representing 42 states who were interested and would have come if sickness or something else had not kept them away. Today I am told that your roll calls the names of 503 members — which is truly remarkable. I would not dare prophecy what your enrollment will be two years hence, but I know that it is going to increase rapidly and as you set up certain ideals and standards you are going to make your organization felt more and more throughout our country.

There are certain objectives you have set up which are very laudable. First, to advance the Science and Art of Anesthesiology.

Second, to develop educational standards and technique in the administration of anesthetic drugs.

Third, to facilitate efficient cooperation between the nurse anesthetist and the medical profession, hospital and other agencies interested in Anesthesiology.

This thing of cooperation is one of the most important things you must practice. I could give you several illustrations, but my time presses. But you can remember the Kentucky slogan, "United we stand, divided we fall."

Fourth, to establish and maintain a central bureau for information, reference and assistance in matters pertaining to the science and art of Anesthesiology.

Fifth, to promulgate an educational program to enlighten the general public as to the importance of the proper administration of anesthetics.

No one woman or group of women has a monopoly on all the wisdom in this world. If any group of doctors or any group of people think they have a monopoly on all the wisdom there is, they are just ignorant. You must remember this as you deal with the groups with which you have to work in your march upward.

That leads me to say one or two things about the spirit with which you carry on your movement. The greatest thing about any woman, or any institution or any group of people, is the spirit manifested. Take me into your city for a few minutes and I can soon tell what sort of a civic spirit the community has. The same is true of a hospital. The same is true of your organization. First of all, you must have a spirit of harmony. You must be "wise as serpents and harmless as doves." You must not only harmonize yourself and your own opinions, but you must harmonize with yours the opinions of the folks out in the world that might be throwing brickbats at you. No group ever accomplished anything, or got

anywhere that was not subjected to criticism and fault finding. If you can keep yourself together and subdue some of the opinions that may disrupt; if you can get a harmonizing spirit among yourselves, then you can march forward as a unit and win out.

You must also have a spirit of helpfulness and not a spirit of selfishness. If you are in this movement just to make a living then you have the wrong idea. It is more important to make a life than to make a living. If this is your life's work because you want to help suffering humanity then you are on the right road and you will arrive.

Another thing you must have is tolerance. You must accord to everyone the right to his own opinion and claim for yourself the same right. An old Philosopher said "The greatest discovery ever made was that there are two sides to every question." If you can realize that your critics are sincere in their opinions and be willing to allow them to have their opinion until you are able to change them you will doubtless have the joy of changing it and thereby accomplish your aims.

Remember in dealing with doctors and dentists that they have a right to their opinion and the best way to persuade them is to prove by your example what you are capable of doing and in that way you will win your argument.

You must also have the spirit of crusader and life saver. You are truly life savers. You may not always get credit for it but the fact is there nevertheless. If certain people were honest and generous about it they would concede that life is not always saved in the middle of the operating table, but sometimes at the head of the operating table. But whether you get credit or not makes no difference to the patients. It is the result that counts and the patient is always first. Credit is not the thing that counts with you, but what is in your heart and the spirit with which you do your duty. If you are in this work because you feel you are a life saver and you want to try to save as many lives as you can and make operations as safe as possible to as many people as possible, then you have the right spirit and you are going to win out.

There are a lot of people in this country who do not yet know what you are trying to do. They attribute to you unworthy motives and the best thing you can do to dissipate this opinion is to demonstrate to doctors, dentists, obstetricians, nurses, hospital superintendents and the public that you are in earnest and are really trying to do something worthwhile. Before you know it all of these people will be for you and you will reach the goal for which you started on June 17th, 1931.

I congratulate you on your past and salute you on your way up.

CHAIRMAN FIFE: It is highly significant to have a message from a man of Mr. Jolly's standing in the American Hospital Association, and we appreciate his interest in our group. His talk has been most inspiring and has given us a great deal of encouragement. It has been clearly demonstrated by the number of representatives from the South at this, our first annual meeting, that the South is back of us and we appreciate the great interest and support that they have given us. We are extremely proud of the South.

CHAIRMAN FIFE: The next paper on our program, "The Induction of an Anesthetic," will be presented by Ruth M. Nash, Director Post-Graduate School of Anesthesia, Long Island College Hospital, Brooklyn, New York.

ANESTHESIA
INDUCTION AND THE INDUCTIONIST

By

Ruth M. Nash, R. N., Anesthetist
LONG ISLAND COLLEGE HOSPITAL
BROOKLYN, N. Y.

"To travel hopefully is better than to arrive," has been said, but for the conscientious anesthetist, it is most gratifying to be able to bring a patient safely to that goal of surgical anesthesia, over what may have been, without first having taken the proper precautionary measures, a dangerous pathway.

This path is the induction, which begins with the first step of anesthesia, and terminates when the muscles are sufficiently relaxed that there is no contractility upon surgical interference.

It is this phase of anesthesia with which this paper is concerned, knowing that the successful termination of a journey depends largely upon getting the right start.

Assuming that the physician has attended to the psychic treatment of the patient, the next step should be taken by the anesthetist to win the confidence of that patient. She should represent a personality to that patient rather than that of a robot character, soon to disappear from the horizon.

These are high pressure moments and at times, alike for both patient and the anesthetist it often happens that there is little opportunity for her to get acquainted with the patient. Though this meeting may be brief, the patient may be beneficially influenced by the pleasing and convincing and friendly personality of the anesthetist. Whenever possible it is better to meet the patient sometime before his arrival at the operating room, at which time his nervous tension is at its highest and his receptivity at its lowest.

It has been proven with great satisfaction to both patient and anesthetist, especially in the nervous and apprehensive type of patient, that if the anesthetic be started in the patient's room much of the excitement which tends to produce shock can be avoided.

A patient remarked to me "I didn't know you could do that; it relieved me of the horror of being taken to the operating room." The anesthetic in that instance was taken in a most tranquil manner.

MAKING THE PATIENT COMFORTABLE

Many times the little details which make for a patient's comfort may be overlooked in a busy operating-pavilion or by some careless or indifferent nurse.

First of all the patient should be made as comfortable as his or her condition will permit. The table, if well padded, may be raised at the

head instead of using pillows, since this position does not change the alignment of the body, and as anesthesia approaches the head and shoulders may be carefully lowered to the desired plane without disturbing an otherwise smooth induction by the removal of pillows. This is one of the aggravating causes of retching or vomiting. A small pad placed under the back relieves backache; but a good sized pillow placed under the knees serves a three-fold purpose, (a) comfort, (b) relaxation, (c) less anesthetic.

This mechanical relaxation is important, especially in the athletic type of patient, also in cases of peritonitis in which the patient has a hypersensitive abdomen.

Under these conditions the table, too, may be broken so as to elevate the head and shoulders of the patient which would give added relaxation.

If the patient complains of thirst give him a mouth rinse, or a small swallow of water may be allowed that "will reach all the way down."

If cold apply an extra warm blanket in such a way that it excludes the cold draughts from blowing up underneath the patient. One blanket properly placed conserves more warmth than several improperly placed.

The room should be well ventilated and bright lights excluded. Startling noises, and conversations that may or may not be relative to the patient in waiting should not occur. These have been the cause for much alarm, and certainly are not conducive to sleep.

FEARS ARE MANY AND VARIED

All restraints should be out of sight but close at hand. If applied at all they should be done in a gentle manner and about the time that the anesthetic is being started while the patient's mind is more or less occupied with what the anesthetist is doing.

Some patients have a horror of having their eyes covered, this applies to both adults and children. This wish is usually granted before being asked.

Later a vaselined pad or soft rubber tissue may be placed over the eyes, or sterile castor oil may be dropped into the eyes to prevent irritation.

Another fear is that of having the mask brought to or near the face. This, in some instances, is overcome by permitting the patient to hold the mask until the stage of forgetfulness.

These matters, which may appear to be of small latitude to some, have recently met full justification and with great satisfaction.

A patient operated upon a year ago writes an anniversary letter, to her surgeon and anesthetist, expressing her appreciation for these little kindnesses.

Then there is the patient who fears having too much or not enough of the anesthetic, hence, the familiar question, "How do you know when I have had enough anesthetic?" This is usually answered by asking the patient, if by looking at the face of a clock he can tell the time of day? This, of course, is answered in the affirmative and generally with a smile.

It is here that many anesthetists have established confidence within themselves through the perusal of such splendid graphic charts as those of Guedel's, Peebles' and Poe's.

MAINTAINING A PATIENT'S RESERVE

Often too little attention is given to the simple matter of placing the hands and arms of the patient so that there is no restriction of chest expansion.

I wonder, too, how many have ever worked out the simple problem of the weight which a patient lifts while on the table for one hour. Supposing the hands and arms to weigh approximately ten pounds, (this estimate I believe to be very conservative in many instances) respirations 25 per minute would make the equation read 60x25x10 or 15,000 pounds, and if two hours on the table 30,000 pounds or 15 tons. This seems almost incredible, but, nevertheless, is a scientific fact.

Frequently, it has been noted that an innocent by-stander will place a hand upon a patient's arm just at the wrong moment, as when the patient is blisfully gliding off into that land of dreams, at which time the patient may imagine the most terrible things are happening, which has a shocking instead of the well intended soothing effect upon the patient.

Even the anesthetist was shocked upon one occasion while visiting the patient the next day to be asked "Who was the party that nearly broke my arm while I was going to sleep?"

So if friends desire to "Say it with flowers," let it be done while the patient is in a normal state of mind.

To lessen shock from fear and excitement it is most important that the environment be quiet but cheerful. Too many people going in and out of an anesthetic room are liable to give the patient the impression that his condition is more serious than it actually is. It is a most disturbing factor, defeating the purpose of the preliminary narcotic.

WRONG IMPRESSIONS

During the early stage of induction, especially under nitrous oxide-oxygen, all outside forces are intensified. At this time the sense of touch and that of hearing are rendered very acute. Questions should not be asked the patient or he may become noisy; only a few comforting words may be said, if any, to the patient and these in a quiet tone of voice. Words having but one or two syllables are best, and these becoming less as the patient approaches the "Land of Nod."

It is best not to indulge a patient in "moving a finger that the anesthetist may know when he has had enough" for these movements may become exaggerated in the second stage; first the finger, then the hand, then the arm and finally the whole body may be moving about. This has been demonstrated so many times that there is not even a shadow of doubt as to its certainty.

Beware of conversations lest you may be misunderstood. A patient declared that she had swallowed a tooth while she was going under the anesthetic, and altho she was unable to say which tooth was missing she carried that impression home with her.

Another patient after inhaling a few breaths of nitrous oxide-oxygen confused the blowing off of a steam sterilizer which was in another room, with the gas that he was getting; and with eyes staring, pointed his finger toward the gas apparatus and said, "It is that abominable machine that

blew up." There was no amount of persuasion that could convince him otherwise. The operation, which fortunately for the patient was an elective one, was postponed and the patient went home; and, as far as I know, he never returned.

Another instance, not fear, but a call to duty took possession of the bewildered state of mind, in which case the patient, who was a member of a fire company, heard the engines with all their screeching, howling devices, rush noisily past and it was only the combined efforts of the operating room personnel that prevented Mr. Patient from joining his fellowmen.

Quietness, should as far as possible, be the rule at all times; especially in patients with cardiac disease or hypertension.

CARBON DIOXIDE AS AN AID IN INDUCTION

There is but one way to increase the breathing in a normal manner and that is to bring to the respiratory center the stimulus that normally induces breathing. Very dilute percentages of C02 greatly increases the volume of intake of air or other gases. Increasing the volume of air breathed is equivalent to the same increase in the concentration of ether inhaled. Example:—Two liters of air containing 8 per cent hold just as much ether as one liter of air containing 16 per cent of ether. Therefore, by increasing the volume of air breathed but still maintaining a low tension of anesthetic, anesthesia can be induced almost as rapidly as by nitrous oxide-oxygen, and the irritation of a high concentration is avoided.

I have used carbon dioxide for seven years, and have proved it as truly a "gift from the gods," and words are inadequate to express my appreciation of the work of Henderson and Haggard, who have spent many years of their lives, in the perfection of the combination of this gas with other gases.

For induction purposes its use is invaluable, especially in that type of patient so familiar to all anesthetists, the one who "won't breathe," or who would or might breathe, but cannot because of some previously administered drug.

Through its stimulating effects upon the centers it checks nausea and vomiting and controls hiccough, and lastly "speeds up the anesthetic."

CHOICE OF ANESTHETIC

Considering the various anesthetic agents which today we have at our command there is no occasion for a so called "stormy" induction.

My preference for induction of anesthesia in the usual adult case, barring the markedly diseased, is nitrous oxide-oxygen because of its pleasant odor and the rapid loss of consciousness (the technique of administration as to percentage varying with the type of individual patient to be anesthetized). As soon as consciousness is lost ether or chloroform-ether is added depending on the resistance of the particular individual and the well known persistent cough of some smokers.

In small children, ethyl chloride or chloroform during the first stage, later combining it with ether through the second stage and continuing it with ether thereafter, is my choice.

AVERTIN

Avertin in selected cases if properly given, I believe has a very promising future. While my observations have covered only about 50 cases, for induction purposes, in the adult, I have not seen its equal. The quiet reposeful manner in which a patient glides off into that "Land of Dreams" is most gratifying to all interested parties.

In the very hysterical, apprehensive and alcoholic type of patients its use is of special value. It can easily be given as a retention enema while the patient is in bed. Using about five minutes time for injection the majority of patients cease to be concerned about themselves, and five minutes later may be transported to the operating room.

Sometimes avertin has more than a basal effect and considerable operating can be done before supplementing it with any other anesthetic; but usually the effect is analgesia and the required relaxation must be obtained with nitrous oxid—oxygen or ether. These anesthetics are preferable because of their stimulating effect, avertin being more or less a circulatory depressant.

THE INDUCTIONIST

"The wind and the waves are always on the side of the ablest navigator," and so the successful inductionist should be familiar with the symptoms of anesthesia, the effect of the agent or agents that is or are being employed, and a thorough understanding of the mechanical devices with which she is administering the anesthetic, also the necessary equipment at hand with which to maintain a free airway, and, likened to the proverbial "Oil Poured Upon the Troubled Waters" that may be used in due time to prevent minor difficulties from developing into those of major proportion, that her ship Patient may be brought to a safe landing.

She should, also, possess a natural aptitude for the work, be diligent and conscientious, abiding by the principle of the "Golden Rule."

CHAIRMAN FIFE: We have another very interesting paper on the program, "Endo-tracheal Anesthesia," by Helen Lamb, Director, Post-Graduate School of Anesthesia, Barnes Hospital, St. Louis, Missouri.

ENDO TRACHEAL INHALATION GAS OXYGEN ANESTHESIA

By Helen Lamb
Director, Post-Graduate School of Anesthesia
Barnes Hospital, St. Louis, Mo.

While the endo tracheal administration of anesthetics has only recently achieved its present high degree of popularity, it is far from a really new method, being in fact the development of a principle that has been evolving in slowly progressive steps during the past two hundred years.

As early as the 17th century experimental work was done on animals to develop a method of sustaining life during temporary periods when their normal respiration had stopped either from mechanical stoppage of the respiratory tract or as a result of failure of the respiratory center.

At that early time an experimenter named Robert Hook demonstrated a method of accomplishing this. His method consisted in blowing a

continuous stream of fresh air through the mouth, trachea and lungs of a dog — the dog's chest having been previously pierced to afford escape for the air which had been so blown into the tract. His experimental dogs were kept alive indefinitely by the mere passage of this fresh air through their pulmonary area, without the use of any respiratory movements at all.

While this man's work demonstrated clearly the fact that the usual physical movements of respiration are not in themselves actually necessary to maintenance of life, he failed to develop the principle any further; and it lay dormant for more than two centuries.

In more modern times (about thirty years ago, or in 1900, to be exact), the same principle was again touched on by a man named Nagel, who experimentally sustained life for two hours in pigeons which had been previously curarized and which were therefore without respiratory function. His method consisted in blowing a stream of air through the pigeon's humerus into its air sacs. (This route is possible in birds because of the fact that their long bones are connected with their air sacs).

Now it will be noted that while these men, Nagel and Hook, sent their experimental air stream in exactly reverse directions through the air tracts of their respective animals, they both sustained life by making use of the same principle and they both demonstrated exactly the same fact, namely, that thoracic and abdominal respiratory movements are not of themselves necessary to effect respiration, but that instead, respiration consists essentially in the exchange of gases locally in the pulmonary area, whether those gases are brought to that location by means of the usual breathing movements or by outside mechanical means.

The first practical application of this principle was made in 1909, when Meltzer and Auer experimented with it as a means of promoting artificial respiration; its appeal to them lying in its possible utility in cases where breathing had ceased (and death was supervening) as a result of pathological failure of the respiratory center.

These pioneers undertook extensive animal experiments to develop some practical method of mechanically delivering life sustaining air into the vital respiratory area and at the same time to carry away from that area the excreted blood gases. This they finally accomplished by inserting a tracheal tube or catheter through the mouth, pharynx, larynx and into the trachea, through which tracheal catheter they blew a continuous stream of air under pressure deep into the respiratory tract and then caused it to escape or flow upwards and outwards along the outside of the tracheal catheter.

By this simple and direct stream of air under pressure they kept alive indefinitely dogs which had been previously curarized and which were therefore entirely without breathing function.

Having thus clearly demonstrated the effectiveness of mechanically delivering life sustaining gases into the deep respiratory area, these progressive researchers promptly recognized the probable utility of delivering anesthetic gases to that vital region in a similar way. They accordingly conducted a series of experiments anesthetizing dogs by blowing

ether vapor deep into the trachea in this same way, with such entirely successful results that their co-worker, Elsberg, in the following year (1910) experimentally used their method in anesthetizing a series of human patients who were undergoing surgery in a New York hospital. From that time on endo tracheal insufflation of ether vapor progressively developed and eventually became standard practice in many countries, for certain types of operations.

But several years of experience showed that while insufflation anesthesia was of certainly great value, it was still something short of perfect. Physiologically, it was costly of the patient's hydration and carbon dioxide. Practically, it was wasteful and extravagant of the anesthetic gas, and, therefore, its use became largely limited to the use of ether vapor and air where non-costing air constituted 90 per cent or more of the anesthetic mixture that was used and wasted.

But experience had shown that there were definite types of surgery where the endo tracheal method of delivery was vitally desirable, but in which ether could not be used because of its irritant properties (in lung involvements, for instance), or where it could not be used because of its inflammability (where cautery was to be used). And so a problem was presented of combining the endo tracheal method of administration with the use of desired anesthetic agents such as nitrous oxide-oxygen. This was finally accomplished in the form of the method which is now known as endo tracheal inhalation.

While a technique covering this combination was developed by me in 1930, a reference to the literature shows that such a procedure in a simpler mechanical form was used experimentally by Magill of England as early as 1920.

While the practice of this method has been wider in the British Empire than in the United States, there is general agreement in both nations as to its preeminent merit for particular types of surgery, the greatest objection to its use being the considerable degree of skill which is required for the intubation or placement of the endo tracheal catheter.

Since the achievement of this skill is merely a matter of understanding the few special principles involved and then carefully and persistently practicing them, there is no reason why any well trained nurse anesthetist should fail to master this technique and to furnish her surgeons with the genuine anesthetic boon that this method affords.

That there is nothing formidable nor mysterious about the method will seem clearer if I point out that the chief difference between endo tracheal and the conventional method of administering gas anesthetics lies in the simple substitution of an endo tracheal catheter in place of the usual face mask. Excepting for this mechanical change, the methods are largely similar.

Briefly, the conduct of an endo tracheal inhalation anesthesia consists first in merely anesthetizing patient by the usual mask method, carrying him to either a moderate degree or to a deeper degree according to the length of time the anesthesia will be interrupted while the anesthetist is changing from face mask to catheter delivery.

When the patient has been carried to this predetermined degree of narcosis, the mask is removed from face, the patient's head is extended to the proper degree, his mouth is opened and through it an electrically lighted laryngoscope is introduced into the pharynx, and with the tip of the laryngoscope the epiglottis is raised, whereupon a clear view is afforded of the glottis and of the vocal cords.

The vocal cords are seen to open upon inspiration, and to close upon expiration. During the inspiratory period, while the cords are open, the anesthetist passes a tracheal catheter between the vocal cords, and down ino the trachea until its distal end is within about one inch of the tracheal bifurcation. The catheter has then reached its resting place.

Then the laryngoscope is withdrawn, the catheter is connected up to the delivery hose of the anesthetizing machine and the flow of gases is sent delivering deep into the trachea through the catheter. From this point forward, the anesthetic is conducted upon regular inhalation principles.

Now while the difference between ordinary inhalation and endo tracheal inhalation is not great mechanically, the difference between the two methods physiologically is extremely marked.

One has only to have struggled with a particularly difficult case, one exhibiting recurrent respiratory interferences that do not respond to the use of pharyngeal airway or changes in head and neck positions, or to alterations in depth of narcosis, changes in pressures or to any of the usual remedies, and then to change to endo tracheal administration and have the respiratory embarrassment entirely cleared up, to realize the great value of this method for indicated cases.

With reference to the cases in which this method is indicated, this will vary with the anesthetist and with the types of surgery that she comes most regularly in contact with.

While its value in mouth, nose and upper air passages is obvious, it has been perhaps most widely used in upper abdominal and in thoracic surgery; to which I would add my own recommendation, "for all procedures in which the patient is to be carried in the prone position."

Hewer and Griffith particularly urge it for gastric work, in which procedures the incision is of course made at that part of the abdomen where respiratory movements are naturally at their greatest and where therefore it is particularly desirable to keep patient's respiratory excursion within the shortest limits possible. In this connection I would point out that endo tracheal inhalation permits anesthesia with minimum respiratory movements.

It is also to be remembered that in these gastric procedures surgical traction upon diaphragmatic attachments frequently produces laryngeal spasm, with consequent respiratory interference and a spastic operative field. In this connection it is quite obvious that with an intact tracheal catheter delivering oxygen and gases between the vocal cords such laryngeal spasm from peritoneal traction cannot occlude a patient's airway.

Endo tracheal inhalation has been recently urged for thoracic surgery by Corryllos, who emphasizes the importance of securing an early

return of cough reflex to effect pus evacuation by the patient. In this regard it is to be noted that postoperative sleep is especially short following the light anesthesia that can be conducted by this method.

Graham uses the endo tracheal method routinely for all intra pleural procedures; and Arbuckle, emphasizing the importance of frequent and effective suction in these cases, commends the route of entry for the suction tube which is afforded by this deeply placed tracheal catheter.

In fact this modern method of administration has developed such a wide range of usefulness and has become so increasingly popular with leading surgeons during the past few years that no anesthetist can feel that she is doing her best work who does not include it in her armamentarium.

The method does not demand a great variety of special equipment although many helpful appliances have been developed and are available if desired. Any good anesthetizing machine may be used for it. I myself use the Metric, because of the exact control of volumes and percentages of gases which it affords and for its delivery at non-fatiguing low pressures — and yet with ample pressure always available for lung inflation if needed, and higher pressures for emergency resuscitation if called for. Incidentally the makers of that machine have devised an ingenious small breathing bag attached to a catheter expiratory valve which is especially valuable in this method of administration.

The endo tracheal catheters used are similar in shape to ordinary urethral catheters but have their opening at the extreme end, instead of at the sides. The exact size called for varies with the patient, the general rule being to use a catheter which is just slightly smaller than the size of patient's glottis. The larger the lumen of the catheter that is used, the less interference with two way breathing through it. A silk, woven fibre type is very satisfactory, as is also Foregger's modification of Flagg's spiral, metal cannula. Careful investigation has demonstrated that trauma does not result from the use of these catheters when they have been properly placed.

A very valuable accessory is the Geudal and Waters inflatable cuff or balloon which when mounted around the catheter enables utter sealing off of the trachea, thus preventing the entry into trachea of blood, vomitus or other matter; and at the same time enabling the establishment of any lung inflation pressure desired. This device is in my opinion distinctly preferable to gauze packing.

And in speaking of pressure I might in passing mention my own experience that no greater positive pressure than 10 millimeters of mercury is ordinarily required for lung inflation, and that during ordinary periods of anesthetic administration pressure in the breathing bag seldom rises above one and one-half millimeters and usually averages about half that.

Now in closing this paper, I sum up the following as advantages which I see to the endo tracheal inhalation method:—

First — The assurance of a free airway at all times. This enables the anesthetist to maintain a light, even anesthesia with full oxygenation and

relaxed musculature. It permits perfect control of intra pleural pressures and affords quiet respiratory movements, both of which conditions are difficult if not impossible to govern under other methods of administration when an obstruction develops in the laryngeal area. In this connection let me remind you that the ordinary airway reaches only to the pharynx and is therefore of little value when an obstruction develops at a lower point, such as at the larynx.

Second — The trachea is protected from aspirated matter, such as blood, vomitus and other foreign substances.

Third — The non-compressible catheter reaching to the deep trachea affords direct entry to the lung area for suction of tracheal and lung exudate. It also affords a quick and very effective route to the deep vital respiratory region for artificial respiration or resuscitation in an emergency.

To offset these manifest and distinct advantages, the method presents one seeming disadvantage, this objection or disadvantage lying in the skill which must be acquired by the anesthetist in order to insert and place the tracheal catheter properly. But since this skill is easily within the reach of every ambitious anesthetist, it is to be hoped that this modern method of endo tracheal inhalation gas oxygen anesthesia will shortly become routine practice with all anesthetists, for those types of surgery to which it is particularly suited.

An active discussion developed following the technical papers, which brought forth the writers' ideas on different methods of administration.

The meeting was adjourned at 4:00 P. M.

BUSINESS SESSION

4:15 P. M.

The business session convened at 4:15 P. M. September 14, 1933, with Mrs. Gertrude L. Fife presiding.

The minutes of the organization meeting were read by Miss Dora Schmidt.

The treasurer's report was also read by Miss Dora Schmidt.

The report of the special committee formed to make contacts with the American Nurses' Association was read by Mrs. Gertrude Fife.

It was moved by Miss Anna Skully, seconded by Miss Gertrude Alexander, that all reports be accepted as read. Carried.

ELECTION OF OFFICERS: The chairman, Mrs. Gertrude Fife, appointed Miss Esther Meil and Miss Anna Willenborg to act as tellers.

Mrs. Louis Keith Boswell, chairman of the Nominating Committee, submitted the following resolution:

> "Realizing that Miss Agatha Hodgins has been a great incentive to us all; and as this is the culmination of her life's work, aim and interest in us, I move that by a unanimous rising vote, we elect Miss Agatha C. Hodgins to the Honorary Presidency of the National Association of Nurse Anesthetists."

Seconded by Miss Cora McKay. Carried.

The election of officers resulted as follows:

President	Mrs. Gertrude L. Fife
First Vice-President	Miss Catherine Cameron
Second Vice-President	Miss Gertrude Alexander
Third Vice-President	Mrs. Mae B. Cameron
Treasurer	Miss Miriam G. Shupp
Trustee - 5 years	Miss Agatha C. Hodgins
Trustee - 4 years	Miss Aida Allwein
Trustee - 3 years	Mrs. Ruth Nash
Trustee - 2 years	Miss Helen Lamb
Trustee - 1 year	Miss Cora McKay

TREASURER'S REPORT

As this is the first annual meeting of the National Association of Nurse Anesthetists, I am submitting a financial report of the Association from the date of the organization meeting, June 17, 1931, to the present time.

Although our Association is a very young one, we have made great strides. The anesthetists all over the country have signified their interest in such an organization, which is shown by the fact that at present our membership includes anesthetists from forty states.

The first dues were received May 3rd, 1932, and on January 1st, 1933 the fees and dues received amounted to $492.25.

From January 1st, 1933 our progress has been more rapid. At the present time there are 503 signed up members, making a total of fees and dues received to date of $2066.67.

The following is a financial statement of the organization from June 17, 1931 to September 8th, 1933:

RECEIPTS	NUMBER	AMOUNT		
Initiation fees	503	$ 503.00		
Dues (active)	335	1410.00		
Dues (associate)	53	128.75		
Total			$2041.75	
From state leader for N.A.N.A. material		2.00		
From Alabama State Ass'n.		3.50		
Advance, 1934 dues (one)		5.00		
Interest on cash in bank		14.42		
Total			24.92	
				$2066.67
DISBURSEMENTS				
Postage		$ 50.02		
Stationery and Printing		15.35		
Cash Box		1.08		
Telegrams		1.85		
Total				68.30
BALANCE IN BANK —				$1998.37

(Signed) Miriam G. Shupp, Treasurer

There being no further business, the session adjourned at 5:15 P. M.

6:30 P. M. Dinner - Hotel Plankinton.

AFTER-DINNER CONFERENCE:

CHAIRMAN FIFE: Miss Catherine Cameron, Director Post-Graduate School of Anesthesia, St. Joseph's Hospital, Milwaukee, Wis., will talk to us on "Ethylene."

ETHYLENE ANESTHESIA

By Catherine A. Cameron, R. N.
Director, Post-Graduate School of Anesthesia
St. Joseph's Hospital, Milwaukee, Wis.

In the following discussion of ethylene anesthesia, I might begin by saying that ethylene as an anesthetic has been a topic very widely discussed since its introduction by Luckhardt and Carter in the year 1923. The pendulum of its popularity has swung from one extreme to the other as it has with every other anesthetic.

In the following paragraphs I will cover a review of my experience with ethylene from May, 1924, up to the present time, a period of nine years.

During this period I have used ethylene oxygen anesthesia in every type of operation. I have also used it in combinations with nitrous oxide, ether and as a supplementary anesthetic to other anesthetic agents, namely, spinal, local, avertin and various barbital products.

In recent years there have been various anesthetic agents introduced. Spinal anesthesia has proved to be one which has gained vast recognition. At this point I would like to state that St. Joseph's Hospital in Milwaukee has given fewer spinal anesthetics than possibly any other hospital of its size. And on the other hand, we have used ethylene possibly more extensively as a routine anesthetic than the other hospitals in Wisconsin, as well as outside the State. Our experience with this agent has shown results well worthy of recognition.

The ethylene anesthetics average approximately 1500 a year in the surgical department of St. Joseph's Hospital, and they have been used in all types of major and minor operations. In addition ethylene has been extensively used in the obstetrical department, preceded by nitrous oxide for the intermittent analgesia.

The use of nitrous oxide has been limited to those cases in which the electric coagulation or cautery was required for that particular operation. The total number of such nitrous oxide anesthetics has been 150 per year.

Ether anesthetics have been employed chiefly in nose and throat work, as can be seen by the fact that of the 700 ether anesthetics administered yearly only 177 or 25 per cent were given for major surgical operations. The report shows that we have administered a ratio of 10 ethylene anesthetics to every two to three nitrous oxide or ether.

I am of the opinion that ethylene offers much to be favorably considered, and I have selected the following seven points in favor of its use.

1. THE INDUCTION AND SECOND STAGE - Ethylene is not particularly unpleasant to inhale, but is during the induction more un-

pleasant than chloroform or ethyl chloride and to some individuals nitrous oxide; consequently we give the induction with nitrous oxide, varying from one to two minutes.

Ethylene demonstrates a decided advantage in the second stage, in that it definitely shortens this stage, which is an important factor toward the accomplishment of good anesthesia. It proves to be the superior inhalation anesthetic for the highly nervous, the muscular and athletic types of patients. With ethylene, as with other agents, anesthesia of the respiratory depressed type is easily corrected by the addition of small quantities of carbon dioxide, which simultaneously hastens the absorption of the anesthetic agent, and is an asset toward better oxygenation.

2. THE MAINTENANCE AND THE ANESTHETIC PROPERTY OF THIS AGENT.

One advantage of ethylene oxygen anesthesia is manifested in the maintenance stage by the generous supply of oxygen which may be administered while securing adequate depth of the anesthesia. The amount of oxygen which may be used approximates that of normal air. This cannot be accomplished with nitrous oxide, so that I believe ethylene to be the anesthetic of choice in operations of prolonged duration.

A comparison of the degree of relaxation obtained with ethylene, nitrous oxide or ether, substituting one for the other under equal conditions, shows that nitrous oxide produces littie relaxation; ether may produce profound relaxation by the open method; ethylene will produce about half the degree obtained with ether, and with the addition of ½ to 1 ounce of ether will in 85 per cent of the abdominal surgery afford adequate relaxation.

Since quiet respiration is of paramount importance in securing relaxation, I have found that ethylene offers more in this respect than can be accomplished with nitrous oxide.

The desired relaxation is obtained without cyanosis, and many authorities claim the color is more nearly normal than with the use of any other anesthetic. Our observation with ethylene confirms this. Though the relaxation may be less than in ether or spinal anesthesia, this to my mind is a distinct advantage to the patient's welfare in that it prevents any but the gentlest handling of tissues. This results, without doubt, in less shock and suggests a smoother and more uneventful convalescence.

In the profound relaxation obtained with ether and spinal, there is complete loss of all normal muscular tone of tissues and viscera. The action of natural defenses of the body, toward walling off infection or resisting pulmonary complications, has been observed to be definitely lessened. A condition of primary shock tends to be brought on due to violent stimulation of sensory nerves, especially sensory visceral nerves, producing a fall in blood pressure and marked circulatory disturbance.

3. THE MARGIN OF SAFETY - Ethylene provides a fairly wide margin of safety between paralysis of the respiratory center and failure of the heart, and the popularity of any anesthetic should be considered from this standpoint.

4. ITS APPLICABILITY TO THE AGED INDIVIDUAL as well as the child of 8 months to a year. Conclusions from my experience with ethylene in the extremely elderly individual and with a limited number of children from 8 months to a year have demonstrated that either group tolerates ethylene very well. In the aged ethylene offers very satisfactory anesthesia, without the addition of ether.

In the extremely aged individual I prefer to see the premedication restricted to 1/6 gr. of morphine to prevent unduly depressed respiratory rate. However, individuals may vary slightly in this respect.

The only noteworthy difference in an ethylene anesthesia in a child of 8 months to one year is the marked variability in the rate and depth of the respirations. For this reason embarrassing respiratory phenomena may occur without warning.

Our practice with children has been to use a close fitting modified face piece, leaving the exhaling valve half open and using limited pressure on the rebreathing bag. With this technique we have been able to avoid, to a great extent, frequent embarrassment of respiration.

In my experience nitrous oxide in very young children is without doubt most unsatisfactory, owing to the marked oxygen restriction and its tendency to increase the rate of respiration to an excessive degree.

Even ethylene anesthesia in this group requires diligent observation and considerable experience.

5. ITS USE IN THE TOXIC AND DEBILITATED INDIVIDUAL.

Ethylene is considered less toxic than any other inhalation anesthetic, since it is rapidly eliminated from the blood, and therefore causes no residual local irritation to the lungs or kidneys.

There seems to be no increase in the flow of saliva or mucus along the respiratory tract, even though the patient may not have been given atrophine pre-operatively. This is an advantage highly desirable in abdominal surgery and of specific advantage in pulmonary deficiency from any cause.

My experience with ethylene in all types of risks, both old and young, leads me to the conclusion that it is in the weak patient and the bad risk that the advantages of ethylene are most strikingly demonstrated.

6. ITS COMPARATIVELY SLIGHT EFFECT UPON BLOOD PRESSURE.

A number of medical authorities declare that there is very little change in blood pressure. In a series of cases in which I have followed the blood pressure readings during the anesthesia, a few have shown slight increase. In some instances this was greater than usual. However, I observed that after the first 15 to 20 minutes the pressure readings which were gradually increased receded to normal, and in hypertension cases there was a decrease.

7. THE INFLAMMABILITY OF THE AGENT.

The perfect anesthetic, free from all dangers, has not yet been discovered. All means and forms must be considered, not as absolutely good

or bad, but in the light of their advantages and disadvantages in comparison with other anesthetics.

Reports from hospitals in which ethylene has been used since its introduction confirm our opinion that there is a general desire to eliminate the explosive risk and continue its use, since this substance has marked advantages as an anesthetic.

On the other hand, reports from some of the foremost hospitals in the country in which ethylene is not used, on account of fear of explosion, show that high grade anesthesia is being obtained by means of nitrous oxide followed by ether, or by the use of each, separately. Certain mixtures, however, of these anesthetic agents are also explosive, although at the concentrations employed are probably less violently explosive than ethylene.

At this point I will give attention to two hospitals in which ethylene was not used because of fear of explosion, where serious explosions occured while using nitrous oxide and ether. A mishap with nitrous oxide and ether oxygen occurred last December, on a day when the temperature outside was between 4 and 6 below zero. The patient had been given an induction of nitrous oxide and the anesthetist had just begun the ether when an explosion occurred in the machine. This caused a flare which traveled to the ether jar, igniting the ether within the jar, which blew it to pieces and threw ether over every object in close range. Besides, it traveled through the inhaling tube to the patient, which caused a very slight internal rupture within one lung. This was not as serious as the damage resulting from the breakage of the ether jar, because the patient was not fatally injured and made a recovery with no serious effects up to the present time. An operating room supervisor standing near the operating table was quite severely burned about the face and extremities due to the fact that burning ether was thrown over her. She, however, recovered also. The anesthetist received the bulk of the burning ether over her body and I am informed was instantly a mass of flames. The extent of her burns was sufficient to cause a fatal result a week later.

Now, understand the explosion was not due to nitrous oxide, since nitrous oxide itself will not explode or burn — either alone or in combination with oxygen. However, when used with ether, should a fire or explosion occur, the nitrous oxide will sustain the combustion and add force to the explosion. It was the ether fumes that ignited, and the ignition was caused by static electricity. I am informed that the anesthetist was particularly susceptible to the accumulation of static electricity in her person. This is one of the very few explosions of this particular origin.

Another accident reported two years ago occurred while nitrous oxide oxygen and ether were being administered in the presence of the cautery. It was concluded that the cautery ignited the ether fumes within close range, which resulted in the explosion of the ether fumes within the lungs of the patient and caused the immediate death of the patient.

In the former instance, in which the accident was considered due to static electricity, it is the belief that this accident might have been avoided

by proper humidification of the air to prevent ignition by the accumulated static on that particular day.

There have been further reports of the ignition of ether vapor in the air, and this is to be considered as an ever present hazard, but as ether flares rarely do serious damage, they are seldom reported. They are preventable by care, and by specially developed technique in the presence of the use of the cautery, electric coagulation machine and motors. Above all, a great sense of the responsibility in regard to all possible causes of ignition should be developed and maintained.

In the ethylene explosions reported there have been a small number of minor injuries, destruction of equipment and also one or two fatalities which I have matched with similar accidents in ether, in combination with nitrous oxide and oxygen.

During my experience with ethylene I have employed every means of minimizing the hazard of explosion by the various precautionary measures, namely — the development of a technique to reduce the possibility of explosive mixtures during the anesthesia, by the addition of moisture within the apparatus, by grounding, and by careful consideration as to ventilation and humidity. I will also state that I have employed these measures to a modified extent while using ether or a combination of nitrous oxide, oxygen and ether under conditions which might tend to develop static electricity.

From the seven points discussed it can be seen that ethylene leaves much to be desired, but in my experince it has given great satisfaction. The remaining fact to be acknowledged is that there is no ideal routine anesthetic, and for this reason a variety of agents are invaluable in obtaining the best results during and after anesthesia.

Thus ethylene holds a definite place in anesthesia, at least for the present, and for certain cases it is the anesthetic of choice.

An active discussion followed this paper.

CHAIRMAN FIFE: Miss Rosalie McDonald, Chief Anesthetist, Emory University Hospital, Emory University, Georgia, is unable to be with us. Her paper on "Carbon Dioxide Filtration Method of Anesthesia," will be presented by Miss Priscilla Barbary.

CARBON DIOXID FILTRATION METHOD OF ANESTHESIA

by Rosalie McDonald, Chief Anesthetist
Emory University Hospital, Emory University, Ga.

There are two different types of apparatus used for carbon dioxid absorption from anesthetic mixtures, namely: the To and Fro Apparatus and the Closed Circle Apparatus, from each of which the same results may be obtained. The principal difference in the construction is that the To and Fro Apparatus has the rebreathing bag and cannister at the face, and the Closed Circle Apparatus has the rebreathing bag and cannister attached to the machine.

The Closed Circle Apparatus has been used with very satisfactory results at Emory University Hospital for the past four years. The rebreathing bag and cannister of soda-lime which are at the machine end are attached to the mask, which has a Y-shaped metal connection, by two

corrugated rubber tubes of large calibre with metal connections. These tubes are in turn attached to the cannister of soda-lime. Interposed between these tubes and the soda-lime cannister are two one-way rubber flutter valves of very sensitive action. These flutter valves control the flow of gases in such a manner that the expired gases pass from the face mask through the expiratory tube and valve and through the soda-lime into the rebreathing bag; likewise, upon inspiration the gases pass from the bag around, not through, the soda-lime, thence through the inspiratory valve and tube to the face mask. The fresh gases enter upon the metal container in which the soda-lime cannister is enclosed at the top and to which the rebreathing bag is attached at the bottom. The soda-lime may be cut out entirely by means of a shunt valve when the anesthetist wishes to raise the carbon dioxid content of the gases in the bag for the purpose of stimulating the respiratory centers of the patient. Dry soda-lime 4-8 mesh has proved most satisfactory for our use. The soda-lime cannister will hold 500 gm., which will last from seven to ten anesthesia hours.

For induction of anesthesia the soda-lime is cut out of the circle by use of the shunt valve, and the anesthetic agents are administered with the same technique as is used with the common type of apparatus. It usually requires from five to ten minutes for the patient to reach the desired plane of anesthesia; then the shunt valve is shifted, throwing the soda-lime into the circuit. At this point the anesthetic gases are cut off, and the oxygen flow is reduced to between 200 cc. and 500 cc. per minute; should the patient's metabolic rate be very high then more oxygen must be added to take care of this need. Oxygen delivery must be very definite. If ether is required for deeper anesthesia or added muscular relaxation, a very small amount, usually 30 or 40 cc., will suffice. Some surgeons prefer to use novacaine instead of ether. All leaks in the apparatus must be eliminated, for when there is a leak in the apparatus allowing anesthetic gases to escape and air to creep in, the smoothness of the anesthesia is greatly disturbed. Should a leak that cannot be discovered occur in the apparatus, the addition of 200 cc. or 300 cc. per minute of the anesthetic gases becomes necessary in order to prevent deflation of the bag. Then the amount of oxygen feed must be increased to dilute the added anesthetic gases above the amount of oxygen needed for metabolic requirements of the patient. In some bag content analyses done by Dr. Parker and myself in an attempt to ascertain just why it was necessary to feed oxygen slightly above the metabolic requirements of the patient in order to maintain a sufficiently inflated bag, we found that the nitrous oxide content of the bag was very much less than the ethylene as compared with the percentages of each delivered from the machine. This would lead one to conclude that nitrous oxide diffuses through the walls of the rubber bag much more rapidly than ethylene. The possibility of leaks in the apparatus was eliminated, since, if there were a leak, it certainly would not be a selective one. Waters and Orcutt have also recently demonstrated that nitrous oxide diffuses through the skin twenty times as fast as ethylene.

The preliminary medication used with this method of inhalation anesthesia does not differ from that used with the ordinary method. At Emory University Hospital pantapon grs. 1/6 with scopolamine grs. 1/400 is given by hypodermic one hour before operation, and 30 minutes later a second hypodermic injection of the same dose is repeated. The patient comes to the operating room in a sleepy, drowsy stage of narcosis and indifferent to all surroundings.

From experience of four years with this technique I feel that it has several advantages over the ordinary technique of administration of inhalation anesthetic agents. There is a conservation of moisture and body heat in that the patient is constantly inhaling gases that are kept moist and warm by continued rebreathing. The chemical reaction between soda-lime and carbon dioxid produces heat, which also aids in keeping the rebreathed gases warm. On the other hand, in the semi-closed method the patient is constantly inhaling fresh cool gases with each inspiration and losing moisture and body heat with each expiration. The breathing is very quiet and regular and easily controlled by nature's two agents, oxygen and carbon dioxid, which the anesthetist has at his command. This normal respiration not only conserves the patient's energy but is a great aid to the surgeon when he is working within the abdomen. The pulse remains normal or nearly normal, and there is no cyanosis. The skin continues dry throughout the administration of the anesthetic so that there is a complete absence of dehydration. The blood pressure changes are in keeping with the depth of anesthesia and the surgical manipulation. The amount of nausea and vomiting is greatly decreased because the amount of the anesthetic agent necessary to use is greatly diminished; therefore, the patient suffers less toxemia. Because of the gases being entirely confined within the circuit and the amount of moisture present in the apparatus, the hazard of explosion is greatly reduced. The unpleasant odor of ethylene and ether which is usually objectionable to the operating personnel is eliminated by the use of this method. The small amount of of anesthetic agents required to maintain satisfactory surgical anesthesia makes this method more economical than the ordinary one.

SUMMARY

1. Apparatus simple, inexpensive, and, while not fool-proof, is easy to use.
2. Hazard of explosion from static or open flame is lessened.
3. Small amount of anesthetic agent necessary to use causes less toxemia to patient.
4. More economical than any other method of inhalation anesthesia.
5. A patient remains physiologically more nearly normal than with any other technique.

No discussion followed Miss McDonald's paper, owing to the fact that Miss McDonald was not at the meeting.

The dinner being attended by others than the members of the National Association of Nurse Anesthetists, the newly elected officers were introduced at this time.

CHAIRMAN FIFE: This is the closing of our meeting. There will be a breakfast meeting of the Board of Trustees and the officers of the Association at 8:00 o'clock tomorrow morning in the dining room of the Hotel Plankinton.

It is highly significant that we have had this marvelous demonstration of interest at our first annual meeting. To me it is both thrilling and stimulating to know that you have come, many of you, from great distances, to participate in this gathering. I feel that we are making history, and that we are laying the foundation for a fine organization, that will be of great benefit to the future of the work.

I feel greatly honored to have been chosen president of this group. I thank you for the confidence you have placed in me and I hope that I I can justify this confidence. I sincerely hope that I shall see you all at our next annual meeting.

Miss Catherine Cameron has a word to say to you.

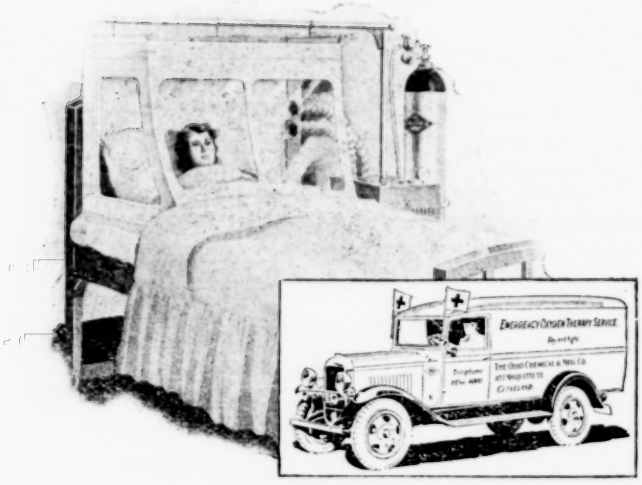
MISS CAMERON: I would like to tell you, in behalf of the Milwaukee anesthetists, that we feel that we have been highly honored in having you come to our city, and we hope that your time here has been extremely pleasant and that sometime in the future we shall have the privilege of entertaining you again.

CHAIRMAN FIFE: The meeting stands adjourned.

FRIDAY, SEPTEMBER 15th, 1933
8:00 A. M.

A breakfast meeting of the Board of Trustees and Officers of the National Association of Nurse Anesthetists was held at the Hotel Plankinton.

The educational program was discussed and plans made for the ensuing year, and for our next annual convention, which will be held in Philadelphia, in conjunction with the American Hospital Association.



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